

IN THE CLAIMS:

1. (Currently amended) A process for production of a water-absorbent resin, which comprises the steps of mixing a monomer liquid with a polymerization initiator and then polymerizing the resultant mixture, thereby producing the water-absorbent resin; with the process further comprising the steps of:

(a) continuously supplying the monomer liquid to a supply pipe line having a flow path to continuously stir a flow of the monomer liquid in the supply pipe line by continuously passing the flow of the monomer liquid through a ~~stirring apparatus~~ static mixer in the flow path of the supply pipe line so that the flow of the monomer liquid is in a stirred state downstream of the ~~stirring apparatus~~ static mixer while continuously passing through the supply pipe line;

(b) causing the polymerization initiator to join into a flow of the monomer liquid being in a stirred state, thereby obtaining a mixed liquid of the monomer liquid and the polymerization initiator downstream of the ~~stirring apparatus~~ static mixer; and

(c) continuously supplying the mixed liquid from the supply pipe line to a polymerization apparatus to cause the mixed liquid to run a polymerization reaction.

2. (Original) A process for production of a water-absorbent resin according to claim 1, wherein, in the step (a), a monomer liquid having a concentration of not less than 40 weight % is used as the monomer liquid.

3. (Original) A process for production of a water-absorbent resin according to claim 1, wherein, in the step (a), a monomer liquid having a liquid temperature of not lower than 50 °C is used as the monomer liquid.

4. (Original) A process for production of a water-absorbent resin according to claim 1, wherein, in the step (a), the monomer liquid is stirred until its stirring Reynolds number reaches not smaller than 50.

5. (Withdrawn) An apparatus for production of a water-absorbent resin, which is an apparatus used for the production process as recited in claim 1; with the apparatus comprising: a supply pipe line to which the monomer liquid is continuously supplied; a stirring treatment part which is placed on the way of the supply pipe line to continuously stir the monomer liquid; a mixing part which is placed on the supply pipe line downstream of the stirring treatment part to supply the polymerization initiator to mix it with the monomer liquid; and a polymerization apparatus which is placed downstream of the supply pipe line to cause a mixed liquid of the monomer liquid and the polymerization initiator to run a polymerization reaction.

6. (New) The process of claim 1, wherein said supply pipe line has an inlet end and an outlet end, and wherein said static mixer is positioned between said inlet end and said outlet end, said process comprising passing the monomer liquid through the static mixer to produce a vortical flow downstream of the static mixer sufficient to mix with the polymerization initiator.

7. (New) The process of claim 6, further comprising continuously supplying the monomer liquid in a vortical flow to the polymerization apparatus.

8. (New) The process of claim 6, further comprising introducing the polymerization initiator in a center portion of the supply pipe line.

9. (New) The process of claim 6, further comprising introducing the polymerization initiator in a peripheral portion of the supply pipe line.

10. (New) The process of claim 1, further comprising an initiator feed pipe positioned within the supply pipe line and having an outlet end facing an outlet end of the supply pipe line, the process comprising introducing the polymerization initiator into the monomer liquid in the direction of the flow of the monomer liquid.

11. (New) The process of claim 1, wherein said static mixer is an inline structure having fixed spiral stirring blades, said process comprising continuously passing the monomer liquid through the static mixer to produce the stirred state, and thereafter introducing the polymerization initiator into the monomer liquid.